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National Defense Center for Energy and Environment

Expansion of USMC CPAC Program Operations to Address the Transition of Assets from Okinawa to Guam

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Outline

- Background
- Objectives
- Optimization Opportunities
- New CRF Concept Designs
- Project Successes

Background

- The USMC CPAC Program provides corrosion monitoring and mitigation services for vehicles and equipment across the Marine Corps.
- CPAC utilizes Corrosion Repair Facilities (CRFs), Corrosion Service Teams (CSTs), and controlled humidity systems.
 - I Marine Expeditionary Force (MEF) based in Camp Pendleton, CA
 - II MEF based in Camp Lejeune, NC
 - III MEF based in Camp Butler, Okinawa, Japan
 - Marine Forces Reserves (MARFORRES) based in New Orleans, LA

Background (cont'd)

- One CRF is located on Camp Kinser in Okinawa, Japan to minimize impacts on mission readiness, safety, and lifecycle costs of III MEF assets.
- As a result of consolidation of operations on Okinawa and relocation of USMC forces to Guam, CPAC is planning to operate separate, but smaller CRFs at each of these locations.
- The CPAC Program has been developing a transition strategy to ensure the effective transfer of operations to the two new CRFs, thus maintaining the current level of corrosion mitigation capability throughout the transition.

Objectives

- Minimize impact on CPAC corrosion control efforts
- Reduce cost of transition for CPAC and DoD
- Improve CRF design efficiency and effectiveness
- Maintain current capabilities at new CRFs
- Provide CPAC with basis for construction of new CRFs
- Provide site and operational recommendations to the relevant planning organizations

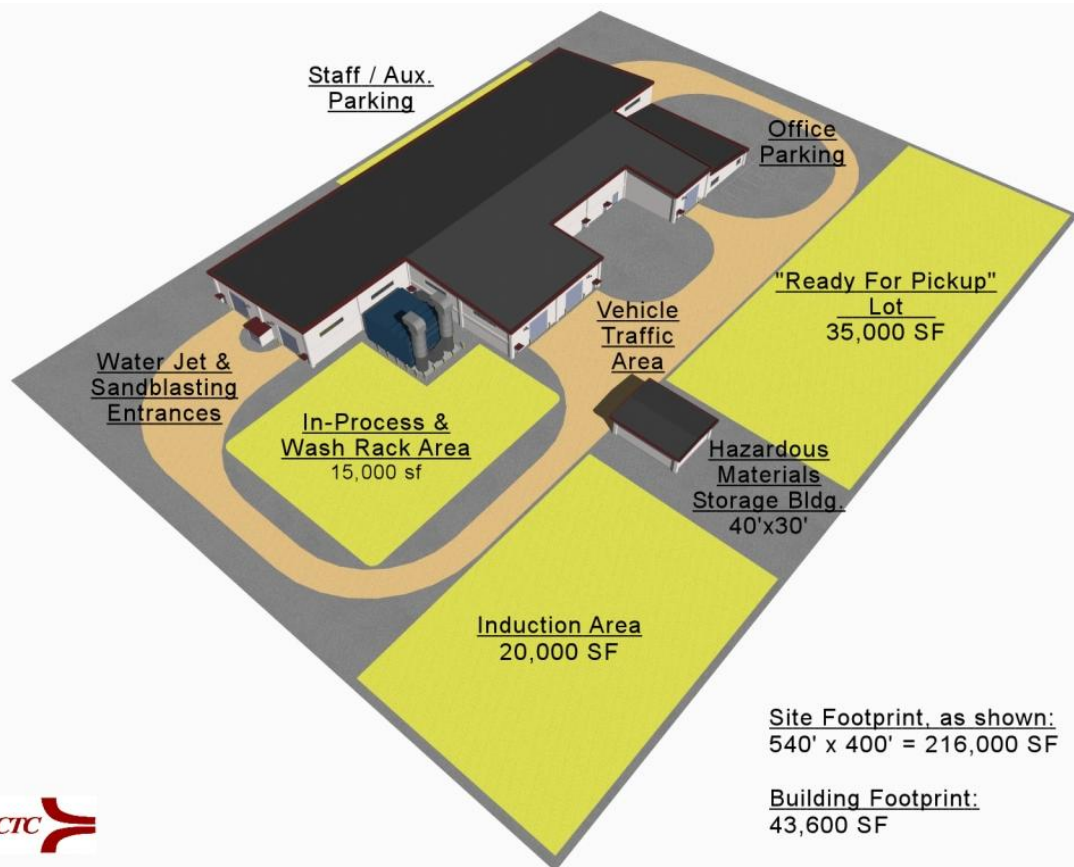
Optimization Opportunities

- Current CRF aboard Camp Kinser, Okinawa processes approximately 1600 Principle End Items (PEIs) per year.
- New CRFs on Guam and Okinawa will process approximately 400 and 1200 PEIs per year, respectively.
- Maintain all corrosion repair and mitigation capabilities.
- Increase efficiency and improve process flow.

Downsizing Opportunities (cont'd)

- Similar geographic and climate conditions of target sites
- Similar construction methods recommended for both sites
- Similar capabilities and process flow
- Design to match capacity needs
- Opportunity for Leadership in Energy and Environmental Design (LEED™) Silver certification

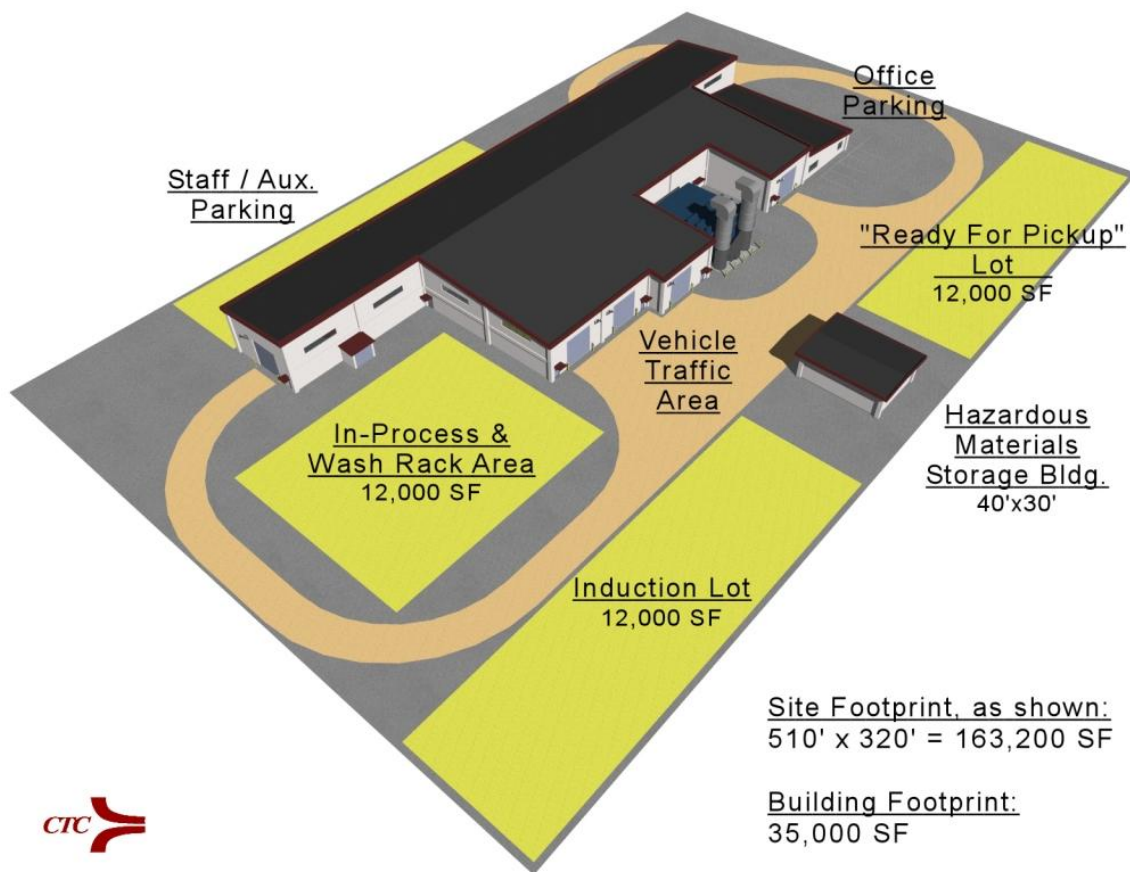
New Okinawa CRF Concept Design



■ Design Characteristics

- Targeted throughput of 1200 PEIs per year
- Two parallel tunnels with two paint booths in each, allowing a staged approach to coating application
- Incorporates cross-flow capability between tunnels
- Capable of processing all equipment in current inventory

New Guam CRF Concept Design



■ Design Characteristics

- Targeted throughput of 400 PEIs per year
- One tunnel with three paint booths allowing a sequential application of primers, topcoat, and camouflage
- Allows for variability in process flow between steps
- Capable of processing all equipment in current inventory



Project Successes

- Developed recommendations for stand-up of CRFs on Camp Hansen and Camp Finegayan
 - Notional site layout/land requirements
 - Infrastructure and resource requirements
 - Proposed capabilities
 - Facility design concepts

- Provided layout and facility information to NAVFAC and MCI MIDPAC
 - CRF requirements have been included in the infrastructure and site layout planning processes
 - The CRF design concepts were incorporated as the Base Facility Requirements for CPAC operations

Project Stakeholders

- U.S. Marine Corps (USMC)
- Naval Facilities Engineering Command (NAVFAC)
- Marine Corps Installations (MCI) Mid-Pacific (MIDPAC)
- Joint Guam Program Office (JGPO)

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